



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

WA 2917  
RECEIVED 6A  
MAR 19 2003 3/17/2003  
OFFICE OF WASTE  
& CHEM. MGMT.

March 17, 2003

**CERTIFIED MAIL**  
**7002 2030 0006 2248 4402**

Ms. Susan Roth  
6236 27<sup>th</sup> Avenue NE  
Seattle, WA 98115-7114

Dear Ms. Roth:

RE: Comments on the Draft Groundwater Sampling and Analysis Plan: Terminal 91 Tank Farm Site Agreed Order No. DE 98HW-N108

The Draft Groundwater Sampling and Analysis Plan (SAP), prepared for the Terminal 91 Site PLP Group (PLP Group) by Philip Services Corporation (PSC), was received by the Department of Ecology (Ecology) on February 3, 2003. This report addresses the portion of the Port of Seattle (POS) Terminal-91 facility where RCRA corrective action is being performed pursuant to the Model Toxics Control Act (MTCA) Agreed Order No. DE 98HW-N108.

Comments from Ecology are attached to this correspondence. The Draft SAP will need to be revised to satisfactorily address the comments, and resubmitted within thirty (30) days after you receive this document. Additional issues concerning the groundwater were not addressed in these comments. These issues with the groundwater investigation will be included in the comments on the Draft Bridge Document 2 report, which will follow in a second comment letter within the next few weeks.

Thank you for your submittal. If you have any questions or comments, or would like to schedule a meeting to resolve comments, please contact me at the Department of Ecology Northwest Regional Office by phone at (425) 649-7280 or by email at [gtri461@ecy.wa.gov](mailto:gtri461@ecy.wa.gov).

Sincerely,

  
Galen H. Tritt  
Hazardous Waste and Toxics Reduction Program

GHT:ct

cc: Julie Sellick, Ecology-NWRO  
Ed Jones, Ecology-NWRO  
Michael Kuntz, Ecology-HQ-TCP  
Jan Palumbo, EPA Region 10  
HZW File 6.2

USEPA RCRA



3012597

FILE COPY



**General comments:**

1. The Draft Plan makes statements that are premature. For example, the statement is made that "Tech Memo # 2 concluded there are no unacceptable risks due to the soil vapor pathway." While this statement is correct, this statement has little meaning for groundwater monitoring proposals until Ecology concurs with the conclusion.
2. The QAPjP is unacceptable in a number of respects. While the PARCC parameters are defined, the QAPjP neglects to provide DQI target achievement values for them. Only the proposed reporting limits are truly described in terms of the data quality needs for the project, and there is no attempt to describe the expected error/uncertainty associated with the data (and what result this may have on the eventual use of the data).

Please see the following specific comments for more details.

**Specific Comments:**

1. Pages 5 through 8. Although Section 2 is entitled *Site Hydrogeological Characteristics*, very little hydrogeological information is provided. The geological discussion is appropriate, but Section 2.2.1 simply refers the reader to Table 2-1 (with the remark that the geologic and hydrogeologic units roughly correspond). Table 2-1 adds little more to this statement.

The SAP could be improved by describing what is known and not known about each hydrogeologic unit in more detail (i.e., a conceptual model should be presented with the aquifers identified and described). Much of this information be taken from other documents and summarized here. In this way the reader can judge if the objectives and tasks associated with the groundwater monitoring program are likely to address gaps associated with site hydrogeology.

2. Page 17. Section 6.1.8 should refer to a SOP for handling wastes associated with monitoring.
3. Page 19. Section 8.2 should state the frequency for monitoring silt accumulation.
4. Page 19. Section 8.3 should be modified to allow for alternative well replacement. That is, if a well becomes dysfunctional, it may need to be replaced by a well located nearby. It may also, however, not need to be replaced, or be better replaced by a well in another location. The text should state that the PLPs will propose the location of replacement wells to Ecology consistent with the needs of the groundwater monitoring program and RI/FS.



6. A section in the QAPjP should describe assessment/oversight activities, including readiness reviews, project surveillance, and response actions. This is standard to all QAPs.
7. A section in the QAPjP should describe the process of reconciling the resulting data with DQOs.
8. The QAPjP does not appear to include fundamental elements associated with measuring DQI attainment. For example, there is no:
  - Listing of DQIs for surrogate recovery (per suite/analyte)
  - Listing of DQIs for matrix spike and lab QC sample recoveries (per suite/analyte)
  - Listing of DQIs for lab duplicates

The revised document should include this information.

9. The QAPjP does not appear to include tabled information related to sample preservation and holding times. Such information must either be included, or a reference should be made to an SOP (which includes this information).
10. Page 1. A minor comment, but SAP objectives are in Section 1.2, not "1b."
11. Page 1. In Section 4 the PLPs state that Section 10 of the SAP describes data quality objectives. This is not the case, though Ecology would welcome this addition to Section 10. As it stands, Section 10 describes the monitoring objectives, and in fairly general terms.
12. Page 3. In Section g) the PLPs note that the soil vapor pathway "appears to be incomplete." Please see the SAP Comment above related to this conclusion.
13. Page 3. A minor point, but Section g) switches from the "screening level" terminology to "cleanup levels" between paragraphs. Ecology prefers that the document consistently refer to screening levels or PRGs.
14. Page 4. Although the QAPjP lists the QC procedures the lab will use to verify the data's "validity," a description of these procedures (for most analyses) should be provided, or the relevant sections of Appendix E should be referenced (per procedure).
15. Page 5. In the discussion of matrix spikes the QAPjP should note what the results of these analyses will be used for (accuracy/precision).
16. Page 5. Section 9 should either discuss how information noted in the field will be archived (or otherwise fed into the database), or refer to the appropriate section in the SAP that describes this.

5. Page 23. A small point but the numbering of objectives in Section 10.0 begins with "7." In addition: a minor point, but the reference to Section "1b" (here and in Section 3, entitled *Data Needs*) should be "1.2."
6. Pages 23 and 24. Section 10.2 notes that a number of wells are located near surface water and more will be added. Data from the wells will be used to "estimate human health risks based on..." ingestion of surface water receptors. Ecology agrees. Since surface water receptors could be affected by site contamination by contact with COPCs in the water column as well as in the sediments, though, it might be more accurate to state here that the new groundwater data will be used to assess risks associated with only current contaminant contributions to surface water. A similar comment can be made for Section 10.3's description of the use of groundwater data.
7. Page 23. Section 10.2 states that the Soil Vapor Technical Memorandum #2 concluded that vapor intrusion would not lead to unacceptable risks. If Ecology concurs with this position prior to the revision of the SAP this is an acceptable statement, but it would be preferable to describe the pathway as the groundwater-to-indoor air pathway ("soil to vapor" is less descriptive).
8. The option for surface water sampling, to estimate ecological risk, has not yet been excluded at this time and should be included in Section 10.3. Conditional points of groundwater compliance under WAC 173-340-720 (8)(c) could entail surface water sampling at some point in the investigation.
9. Determining background groundwater quality is a requirement for a RI/FS under MTCA. Background is not mentioned or addressed in the Draft Plan.

**Specific QAPjP Comments:**

1. A page should be included which shows who prepared the QAPjP and who has approved it (including Ecology). This is standard to all QAPs.
2. A page should be included which shows who has been provided a copy of the document (distribution list). This is standard to all QAPs.
3. In the QAPjP or SAP the PLPs should note the training requirements that must be met by staff conducting the monitoring program.
4. Section 9 of the SAP discusses personnel functions, but the only bulleted function related to QA seems to be "data validator liaison." Section 9 should be enhanced to discuss QA, or the QAPjP should include this information itself. Table 1 from PSC's Georgetown facility Pre-Corrective Action Monitoring Plan's QAPjP may be used as a guide.
5. A section of the QAPjP should be devoted to Instrument/Equipment Testing, Inspection, and maintenance Requirements. This is standard to all QAPs.



17. Pages 6 and 7. Section 11 needs to be significantly enhanced. The PLPs should add:

- A paragraph describing how field activities will be checked to verify conformance with the SA
- A paragraph discussing data verification
- A subsection related to data validation. It appears that a certain percentage of the data will be subjected to full (100%) data validation, while a larger percentage will undergo an abbreviated QA review. The components of each validation process should be listed (again, please use the PSC-Georgetown PCAMP QAPjP as a guide).
- A subsection should describe – or refer to a SOP that describes – the pertinent algorithms for assessing QC results